Specimen Collection and Preparation

Specimen Collection Tubes
The following is a list of tubes referred to in Memorial Health System’s specimen requirements:

- **Dark Green-Top (Sodium Heparin) Tube**: This tube contains sodium heparin—used for collection of heparinized plasma or whole blood for special tests.
  
  **Note**: After tube has been filled with blood, immediately invert tube several times to prevent coagulation.

- **Light Green-Top (Lithium Heparin) Tube**: This tube contains lithium heparin and a plasma gel separator—used for collection of various chemistry tests.
  
  **Note**: After tube has been filled with blood, immediately invert tube several times to prevent coagulation.

- **Grey-Top (Potassium Oxalate/Sodium Fluoride) Tube**: This tube contains potassium oxalate as an anticoagulant and sodium fluoride as a preservative—used to preserve glucose in whole blood and for some special chemistry tests.
  
  **Note**: After tube has been filled with blood, immediately invert tube several times in order to prevent coagulation.

- **Lavender-Top (EDTA) Tube**: This tube contains EDTA as an anticoagulant—used for most hematological procedures.
  
  **Note**: After tube has been filled with blood, immediately invert tube several times to prevent coagulation.

- **Light Blue-Top (Sodium Citrate) Tube**: This tube contains sodium citrate as an anticoagulant—used for collection of blood for coagulation studies.
  
  **Note**: It is imperative that tube be completely filled. Ratio of blood to anticoagulant is critical for valid prothrombin time results. Immediately after draw, invert tube 6 to 10 times in order to activate anticoagulant.

- **Pink-Top (EDTA) Tube**: This tube contains EDTA as an anticoagulant—used only for Blood Bank tests.

- **Red-Top Tube**: This tube is a plain VACUTAINER® containing no anticoagulant—used for collection of serum for selected chemistry tests.

- **Red/Gold-Top Tube (Serum Gel)**: This tube contains a clot activator and serum gel separator—used for most chemistry and immunology laboratory tests.
  
  **Note**: Invert tube to activate clotting; let stand for 20 to 30 minutes before centrifuging for 10 minutes. If frozen serum is required, pour off serum into plastic vial and freeze. **Do not freeze VACUTAINER®**.

- **Royal Blue-Top Tube**: There are 2 types of royal blue-top Monoject® tubes—1 with the anticoagulant EDTA and the other plain. These are used in the collection of whole blood or serum for trace element analysis. Refer to individual metals test listings to determine tube type necessary.

- **Special Collection Tubes**: Some tests require specific tubes for proper analysis. Please contact Memorial Health System prior to patient draw to obtain correct tubes for metal analysis or other tests as identified in the individual test listings.

- **Yellow-Top (ACD) Tube**: This tube contains ACD—used for collection of whole blood for special tests.

Specimen Collection Tubes Order of Draw
Specimen collection tubes should be collected in the following order:

- **VACUTAINER® system**:
  
  — Sterile (cultures)
  — Red-top
  — Blue-top (sodium citrate)
  — Red/gold-top (serum gel)
  — Green-top (sodium heparin)
  — Lavender-top or pink-top (EDTA)
  — Grey-top (potassium oxalate/sodium fluoride)

- **When filling collection tubes from a syringe draw**:
  
  — Sterile (cultures)
  — Light blue-top (sodium citrate)
  — Lavender-top (EDTA)
  — Red/gold-top or tiger-top (serum gel)

Discard Volumes when Collecting Blood from Indwelling Lines
In order to insure that a specimen is not contaminated or diluted, the following protocol must be followed when blood is collected from a line:

- **Always waste 10 mL before drawing any blood for testing.**

- **When drawing specimens for coagulation testing, draw 20 mL before the light blue-top (sodium citrate) tube is filled (1=waste and 1=extra red-top).**

- **When drawing specimens for coagulation testing and when heparin is being infused in the line, draw 30 mL before the light blue-top (sodium citrate) tube is filled (1=waste and 2=extra red-top).**